

**REMARKS/ARGUMENTS**

Reconsideration of the above-identified application in view of the present amendment is respectfully requested.

Claim 10 is rewritten in independent form to include the subject matter of claims 1 and 7. Claim 10 stands rejected under 35 U.S.C. 112 as failing to comply with the enablement requirement. This rejection is respectfully traversed.

The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. *United States v. Teletronics, Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988).

As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. §112 is satisfied. *In re Fisher*, 427 F.2d 833, 839, 166 USPQ2d 1737, 1743 (Fed. Cir.), *cert. Denied*, 484 U.S. 954 (1987). A patent need not teach, and preferably omits, what is well known in the art. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991).

Merriam Websters Online dictionary defines stochastic as "random, specifically involving a random variable". In a stochastic process, the pressure waves are generated not periodically (i.e. with equal time intervals between the single pulses) but randomly, with randomly chosen time intervals between the single pulses. One of ordinary skilled in the art would be able to create pressure waves with randomly chosen time intervals between the single pulses without valve

experimentation. In view of the above, it is respectfully submitted that the rejection of claim 10 under 35 USC 112, first paragraph should be withdrawn. Therefore, claim 10 is allowable.

Claim 14 is rewritten in independent form to include the subject matter of claim 1. Claim 14 is further amended to correct the insufficient antecedent basis for "safety system" and to replace the word "it" with --said electronic unit-- in order to overcome the rejection under 35 U.S.C. 112. Therefore, claim 14 is allowable.

Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by Bengler, DE 19852315. This rejection is respectfully traversed. Bengler does not disclose or suggest a device for generating a pressure wave in the fluid. Bengler merely discloses sections 4 of the steering wheel rim having chambers 7 containing fluid. In these sections 4, the hardness of the steering wheel rim can be varied by increasing the pressure of the fluid. This feature, however, does not necessarily create a pressure wave in the fluid. To generate a pressure wave, the amplitude of the pressure increase has to be high and the variation in time of the pressure increase has to be short. A quasi-static pressure increase will not result in a pressure wave. In the small volume chambers 7 of Bengler, it is clearly not necessary to generate a pressure wave to create a desired change of hardness. Rather, a gradual increase of fluid pressure in the chamber would be advantageous so as to not startle the driver. Thus, Bengler fails to disclose or suggest a device for generating a pressure wave in the fluid. Therefore, claim 1 is allowable.

Claims 3, 4, and 7-9 depend from claim 1 and are therefore allowable as depending from an allowable claim and for the specific features recited therein.

Claim 2, which depends from claim 1, should be allowed for the same reasons as claim 1 and also for the additional feature that the steering wheel rim has a leather covering and the tube is arranged directly beneath the leather covering. Neither Bengler nor Kurata et al. disclose or suggest this feature. Further, one would be lead away from applying the leather cover of Kurata et al. to the steering wheel rim of Bengler, because the leather cover would cover up the sections 4 and prevent the driver from locating the sections 4 to grip his hands thereon. Since the hardness of the steering wheel rim can only be detected in the sections 4, a driver could possibly not place his hands on the sections 4 of the steering wheel rim and thus, could not be able to detect the change of harness of the steering wheel rim in the sections 4. Therefore, claim 2 is allowable.

Claim 5, which depends on claim 1, should be allowed for the same reasons as claim 1 and also for the additional feature that the liquid is glycol. Bengler does not discloses or suggest this feature. Further, the Office Action does not cite a reference disclosing that the tube is filled with glycol. Instead, in the rejection of claim 5, the Office Action relies solely on the Examiner's personal knowledge that glycol is an art-recognized equivalent and that it is immaterial whether the fluid is glycol or some other known stable liquid. Examiner also states that the haptic signal would be produced equally well with fluid being any stable fluid. Applicant, at this time and pursuant to 37 C.F.R. §1.104(d)(2), requests an affidavit of the Examiner to support the Examiner's statements for such a rejection. Therefore, in view of the above, claim 5 is allowable.

Claim 6, which depends on claim 1, should be allowed for the same reasons as claim 1 and also for the additional feature that the fluid is air. Bengler does not disclose or suggest this feature. Further, the Office Action does not cite a reference disclosing that the tube is filled with air. Instead, in the rejection of claim 6, the Office Action relies solely on the Examiner's personal knowledge that air is an art-recognized equivalent and that it is immaterial whether the fluid is air or some other known stable liquid. Examiner also states that the haptic signal would be produced equally well with fluid being any stable fluid. Applicant, at this time and pursuant to 37 C.F.R. §1.104(d)(2), requests an affidavit of the Examiner to support the Examiner's statements for such a rejection. Therefore, in view of the above, claim 6 is allowable.

Claim 11 is rewritten in independent form to include the subject matter of claim 1. Claim 11 should be allowed for the same reasons as claim 1 and also for the additional feature that the device is designed such that the pressure wave in the fluid brings about a vibration movement of the steering wheel rim. Bengler does not disclose or suggest this feature. In fact, Bengler does not disclose or suggest any vibration of the steering wheel rim caused by a device. The periodic hardening of a section of the steering wheel by increasing the pressure in a fluid chamber does not lead to a vibration of the steering wheel rim. To generate a vibration, a momentum has to be transferred from the fluid to the steering wheel rim skeleton. This is not shown in Bengler. Therefore, claim 11 is allowable.

Claim 13 is rewritten in independent form to include the subject matter of claim 1. Claim 13 should be allowed for the same reasons as claim 1 and also for

the additional feature that the device generates a pressure wave running along the circumference of the steering wheel rim, seen in a direction of the steering wheel's rotational axis. Bengler does not disclose or suggest a device that generates a pressure wave that runs along the circumference of the steering wheel rim. Bengler discloses changing the hardness of sections of the steering wheel. Therefore, claim 13 is allowable.

Claim 12 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Bengler in view of Noda et al. This rejection is respectfully traversed.

The M.P.E.P. sets forth the criteria for a rejection for obviousness under 35 U.S.C. §103 as follows:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.

See, M.P.E.P. § 706.02(j) *citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Neither Bengler nor Noda et al. taken alone or in combination discloses or suggests a device for generating a pressure wave in the fluid. Bengler merely discloses sections 4 of the steering wheel rim having chambers 7 containing fluid. In these sections 4, the hardness of the steering wheel rim can be varied by increasing the pressure of the fluid. This feature, however, does not necessarily require the

creation of a pressure wave in the fluid. To generate a pressure wave, the amplitude of the pressure increase has to be high and the variation in time of the pressure increase has to be short. A quasi-static pressure increase will not result in a pressure wave. In the small volume chambers 7 of Bengler, it is clearly not necessary to generate a pressure wave to create a desired change of hardness. Rather, a gradual increase of fluid pressure in the chamber would be advantageous so as to not startle the driver.


The tube of Noda et al. that the examiner refers to is a hollow channel in the core member 12 of the steering wheel used as a heat reservoir for the thermoelectric transducer means of the steering wheel heating or cooling device. Thus, a device for generating a pressure wave is not used in Noda et al. The hollow channel of Noda et al. is completely unrelated to the tube of the present invention that contains the fluid in which the pressure wave is generated. Thus, neither Noda et al. nor Bengler taken alone or in combination discloses or suggests a device for generating a pressure wave in the fluid.

Further, there would not be a reasonable expectation of success to combine the teachings of Noda et al. and Bengler. The hollow core member 12 of the steering wheel would be completely unsuited for the purpose of creating a haptic signal. The steering wheel core has to be completely rigid to lend stability to the steering wheel rim. Increasing the pressure of fluid inside the steering wheel rim core could never lead to a haptic signal perceived by the driver on the surface of the steering wheel rim. Therefore, a combination of the teachings of Noda et al. and

Bengler is not obvious. Thus, in view of the above-mentioned reasons, claim 12 is allowable.

In view of the foregoing, it is respectfully requested that the amendment be entered and the application allowed. Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

  
James L. Tarolli  
Reg. No. 36,029

TAROLLI, SUNDHEIM, COVELL,  
& TUMMINO L.L.P.  
1300 East Ninth Street, Suite 1700  
Cleveland, Ohio 44114  
Phone: (216) 621-2234  
Fax: (216) 621-4072  
Customer No.: 26,294